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NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

Top Secret

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Imagery analysis report

Microwave Radio-Relay Facilities in Pakistan (TSR)

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MICROWAVE RADIO-RELAY FACILITIES IN PAKISTAN (TSR)

1. (TSR) This is a preliminary report on the Pakistani microwave radio-relay network, identifying an international military communications network for the Central Treaty Organization (CENTO) and portions of a domestic microwave radio-relay network. A total of 73 Pakistani microwave facilities are included in this report. Twenty-three are CENTO facilities (Figure 1 and Table 1), and the remaining 50 are domestic stations (Figure 2 and Table 2).

CENTO Military Network

2. (TSR) The CENTO military radio-relay network (Figure 1 and Table 1) was built to link Karachi, Pakistan, with Ankara, Turkey, via Iran[1]. A total of 23 CENTO radio-relay stations were listed for Pakistan in the TDI;[2] of these, 21 were identified on available photography. The other two stations (items A and B, Figure 1) were not covered by available imagery; however, all 23 stations with their associated pertinent data are listed in Table 1. The typical CENTO station is unsecured and consists of a guyed lattice tower with two, 25X1 diameter parabolic dish antennas; one control building; and several support buildings (Figure 3). Part of this network's capacity is dedicated for Pakistan's domestic use[1].

Domestic Network

3. (TSR) A total of 50 facilities in the domestic network (Figure 2 and Table 2) have been identified. The domestic network is made up of two different systems. One system was constructed to link Karachi with Quetta, Lyallpur, and Islamabad (Rawalpindi)[3] and consists of secured facilities, each containing a self-supporting lattice tower; and/or parabolic dish, microwave antennas; one control 25X1 building; and several support buildings (Figures 4 and 5).

4. (TSR) The second system was built to link Lahore with Islamabad via Lyallpur. It was constructed by the Tokyo Shibaura Electric Company (TOSHIBA)[4]. It consists of secured facilities, each with a guyed lattice tower supporting parabolic dish, microwave antennas; one control 25X1 building; and several support buildings.

5. (TSR) Unlike the CENTO stations which have usually two antennas at each facility, the number of antennas at the domestic network facilities varies between one and eight. This data along with other associated pertinent data are listed in Table 2.

6. (S) A continuing effort will be made to identify and report additional radio-relay stations in Pakistan.

REFERENCES

IMAGERY

(TSR) All available KEYHOLE imagery acquired through was used in the 25X1 preparation of this report.

MAPS OR CHARTS

DMA. Joint Operations Graphic, Series 1501, scale 1:250,000 (UNCLASSIFIED)

DOCUMENTS

1. CIA. NIS 36 Sec 38 (Rev), *Pakistan Telecommunications,* Mar 69 (CONFIDENTIAL) 25X1
2. DIA Automated Information File, Aug 79 (SECRET) 25X1
3. International Bank for Reconstruction and Development/International Development Association. Report No 408a-PAK, *Appraisal of a Third Telecommunications Project in Pakistan,* 74, Washington, DC (UNCLASSIFIED)
4. DoD. IIR 2 253 0031 70, *Lahore Rawalpindi Microwave System,* Jan 70 (CONFIDENTIAL)

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REQUIREMENT

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(S) Comments and queries regarding this report are welcome. They may be directed to 25X1
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Table 1.
CENTO Microwave Radio-Relay Facilities Identified in Pakistan (Keyed to Figure 1)
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Site No	Facility	Geographic Coordinates	BE No	MRN No	Site Elevation (ft)	Tower Height (m)	Antenna Orientation* (deg)
B	Juzzak Intl Radrel CENTO	28-55-38N 061-46-29E		--	--	Undet	
A	Tozghi Intl Radrel CENTO	28-47-54N 062-17-35E		--	--	Undet	
1	Kundi Intl Radrel Tmnl CENTO	28-48-20N 062-46-29E		084286	2,600	115	
2	Nuhli Intl Radrel Tmnl CENTO	28-45-55N 063-33-10E		084287	2,740	Undet	
3	Dalbindin Intl Radrel CENTO	28-48-45N 064-08-30E		084285	3,000	Undet	
4	Yadgar Chauki Intl Radrel CENTO	28-57-48N 054-49-34E		084284	3,000	Undet	
5	Zamin Ziarat Intl Radrel CENTO	29-02-11N 065-22-42E		084289	4,000	Undet	
6	Nushki Intl Radrel CCT Drop CENTO	29-35-10N 066-01-45E		084264	3,900	Undet	
7	Saiyd Lango Ziarat Intl Radrel CENTO	29-34-50N 066-15-42E		084282	5,600	Undet	
8	Shaikh Washi Intl Radrel CENTO	29-52-11N 066-35-24E		084283	6,200	Undet	
9	Mastung Intl Radrel Tmnl CENTO	29-58-00N 066-55-00E		073970	6,100	Undet	
10	Mach Intl Radrel CENTO	29-56-23N 067-20-07E		084290	4,818	Undet	
11	Kaprani Intl Radrel CENTO	28-48-23N 068-03-30E		084292	273	Undet	
12	Jacobabad Intl Radrel CENTO	28-20-54N 068-23-02E		084291	158	Undet	
13	Lakhi Intl Radrel Tmnl CENTO	27-51-30N 068-44-40E		084301	191	Undet	
14	Larrana Intl Radrel CENTO	27-33-45N 068-12-10E		084300	182	Undet	
15	Sita Intl Radrel CENTO	27-02-43N 067-50-45E		084297	121	Undet	
16	Sehwan Intl Radrel CENTO	26-20-00N 067-52-00E		062531	1,030	Undet	
17	Budhapur Intl Radrel CENTO	25-45-44N 068-17-15E		084303	222	Undet	
18	Kotri Intl Radrel CCT Drop CENTO	25-21-54N 068-16-56E		026404	200	Undet	
19	Hillaya Intl Radrel CENTO	24-53-00N 068-03-00E		084265	98	Undet	
20	Gharo Intl Radrel CENTO	26-46-52N 067-32-32E		062609	100	Undet	
21	Karachi Intl Radrel Tnml CENTO	24-53-10N 067-04-40E		084302	203	Undet	

*Computer-derived point-to-point azimuths.

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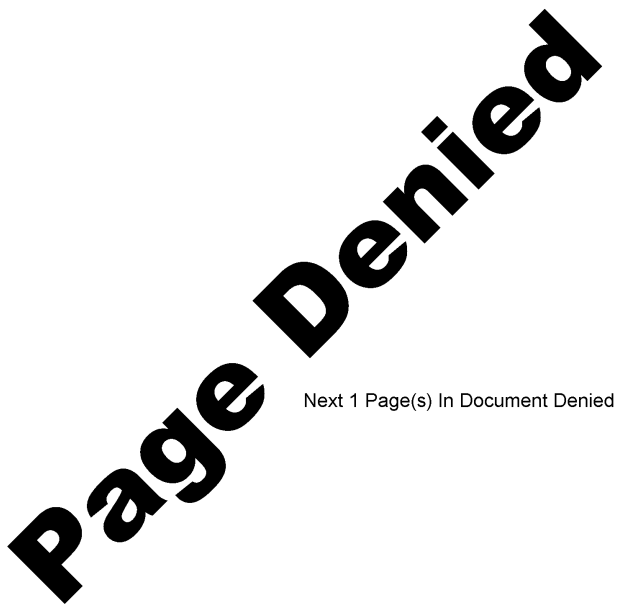

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Table 2. Domestic Microwave Radio-Relay Facilities Identified in Pakistan (Keyed to Figure 2).
This table in its entirety is classified TOP SECRET RUFF

Site No	Facility Name	Geographic Coordinates	BE No	MRN No	Site Elevation (ft)	Tower Height (m)	No of Ant	Antenna Orient.* (deg)
1	Karachi Radrel Sta SW	24-51-28N 067-00-45E		084324	50	Undet	2	
2	Thano Bula Khan Radrel Sta	26-20-21N 067-55-15E		084326	1,288	Undet	2	
3	Hyderabad Radrel Sta	25-23-20N 068-21-00E		084325	91	Undet	3	
4	Iando Muhammad Khan Radrel Sta	25-05-12N 068-36-05E		084266	45	67	2	
5	Talhar Radrel Sta	24-52-45N 068-49-30E		084267	39	77	2	
6	Badin Radrel Sta	24-39-30N 068-50-55E		084268	29	Undet	1	
7	Tando Allahyar Radrel Sta	25-32-00N 068-42-20E		084357	76	Undet	2	
8	Lakha Radrel Sta	26-05-20N 068-05-30E		062529	150	Undet	2	
9	Sehwan South Radrel Sta	26-25-00N 067-51-45E		062530	200	Undet	2	
10	Dadu Radrel Sta	26-44-30N 067-47-30E		084361	200	Undet	2	
11	Khair Pur Nathan Shah Radrel Sta	27-07-15N 067-45-00E		084362	142	Undet	2	
12	Nasirbad Radrel Sta	27-22-40N 067-55-00E		084360	142	Undet	2	
13	Ratodero Radrel Sta	27-47-40N 068-17-40E		084358	161	Undet	2	
14	Shikapur Radrel Sta	27-58-12N 068-37-57E		084367	209	Undet	4	
15	Sukkur Radrel Tmnl	27-42-37N 068-51-25E		084356	228	69	1	
16	Jacobabad Radrel Sta	28-16-35N 068-25-20E		078720	150	Undet		
17	Temple Dera Radrel Sta	28-33-45N 068-12-05E		084355	194	Undet	2	
18	Bellpat Radrel Sta	28-56-16N 068-01-40E		084354	294	Undet	2	
19	Lindsay Radrel Sta	29-12-55N 067-56-20E		084353	331	Undet	2	
20	Sibi Radrel Sta	29-32-20N 067-52-20E		071560	430	Undet	2	
21	Gokurt Radrel Sta	29-31-00N 067-29-50E		084359	2,058	10	2	
22	Mastung Intl Radrel Tmnl CENTO	29-38-00N 066-55-00E		073970	1,860	Undet	2	
23	Shikarpur Radrel Sta NE	28-06-00N 068-59-00E		066577	60	67	2	
24	Kandhkot Radrel Sta	28-20-35N 069-12-28E		084366	212	75	2	
25	Kashmor Radrel Sta	28-26-24N 069-35-51E		084365	228	95	3	
26	Rojan Radrel Sta	28-42-12N 069-53-50E		084364	252	95	4	
27	Dhing An Radrel Sta	28-55-48N 070-15-04E		084363	277	85	3	
28	Fazilpur Radrel Sta	29-17-35N 070-26-35E		084368	298	85	2	
29	Jampur Radrel St	29-39-30N 070-36-00E		084369	356	90	2	
30	Iandlianwala Radrel Sta	31-04-27N 073-08-14E		084281	550	Undet	4	
31	Lyallpur Radrel Imnl Toshiba	31-25-45N 073-06-19E		078721	186	Undet	8	
32	Shah Kot Radrel Sta	31-35-55N 073-31-00E		084271	608	Undet	2	
33	Shekupura Radrel Tmnl South	31-36-45N 073-53-20E		079056	201	Undet	2	
34	Lahore Radrel Tmnl Toshiba	31-33-40N 074-19-50E		071572	704	Undet	2	
35	Chinot Radrel Sta	31-43-30N 072-59-30E		079140	244	Undet	3	
36	Sargodha Radrel Sta	32-06-00N 072-41-00E		064354	615	Undet	1	
37	Iaurarabad Radrel Sta	32-17-40N 072-16-50E		084370	562	Undet	2	
38	Murid Radrel Sta	32-55-40N 074-48-40E		061977	1,750	Undet	3	
39	Dhanda Radrel Sta	33-12-10N 072-55-50E		074200	1,800	Undet	2	
40	Rawalpindi Radrel Sta	33-37-20N 072-59-35E		057909	1,688	Undet	2	
41	Campbellpore Radrel Sta	33-46-20N 072-21-40E		074189	1,200	Undet	3	
42	Peshawar Radrel Sta	34-01-03N 071-33-58E		083799	924	Undet	1	
43	Multan Radrel Sta	30-10-10N 071-27-50E		083802	400	Undet	2	
44	Darya Khan Radrel Sta	31-47-10N 071-06-50E		084416	600	Undet	4	
45	Sahawala Radrel Sta	32-08-30N 071-26-20E		084417	640	Undet	4	
46	Mianwali Radrel Sta	32-35-30N 071-32-40E		084415	512	Undet	2	
47	Biddhar Radrel Sta	32-52-50N 070-57-40E		074189	1,575	Undet	2	
48	Karor Radrel Sta	31-13-00N 070-57-50E		084415	512	Undet	2	
49	Okara Radrel Sta	30-49-23N 073-27-07E		082786	400	Undet	2	
50	Kolpur Radrel Sta	29-55-00N 067-09-55E		084418	8,300	Undet	2	

*Computer-derived point-to-point azimuths.

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